

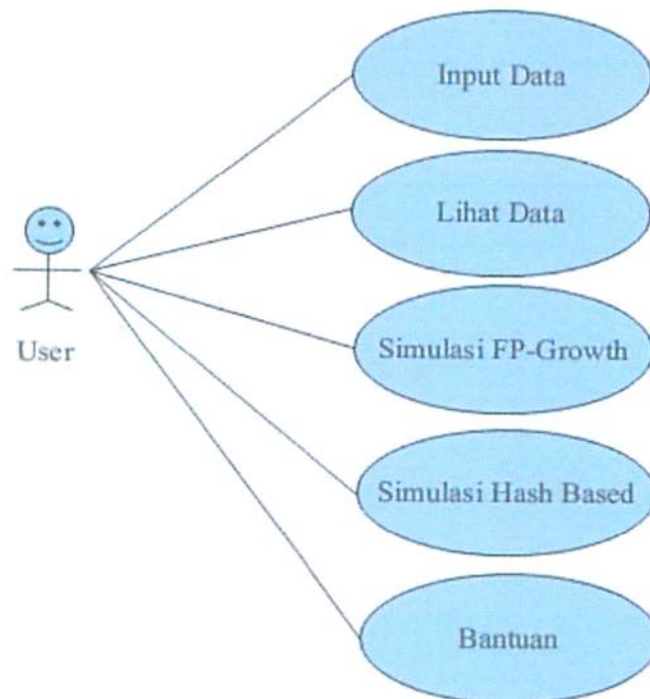
CHAPTER IV

ANALYSIS AND DESIGN

4.1 Analysis

4.1.1 Use Case Diagram

Use Case Diagram shows user, use case, and relations from a system in a diagram. This Diagram presentations about user and system interaction.



Picture 4.1 Use Case Diagram

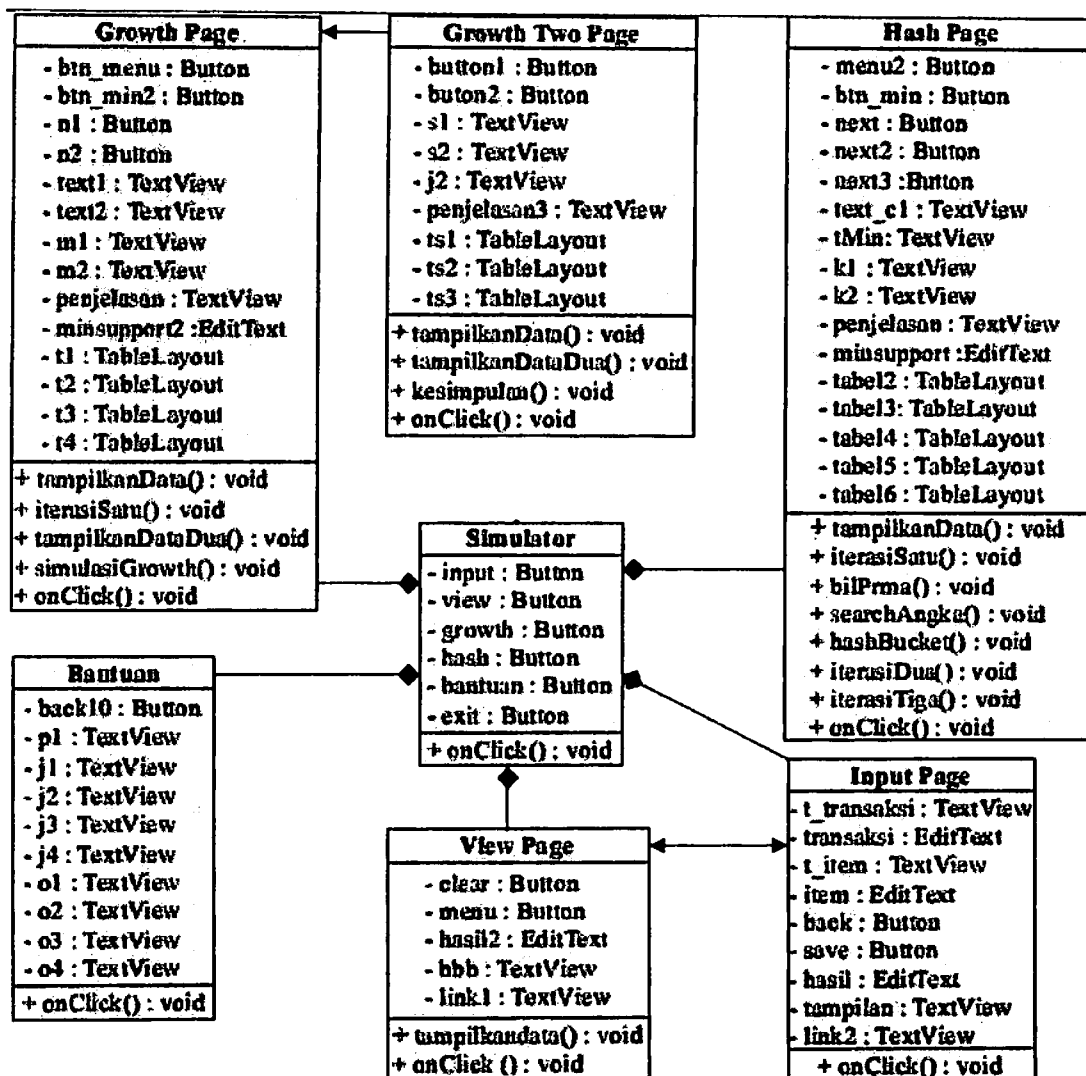
Information :

- Input Data, User can input data transaction and data item where the result will be saved in SQLite.

- **Lihat Data**, User can see all data or has been input from SQLite.
- **Simulasi FP-Growth**, From data in SQLite then user can do FP-Growth Simulation where user must input min support value to determine itemset with frequent more than min support value. FP-Tree is the core from this Simulation, where from FP-Tree user can get the itemset result.
- **Simulasi Hash Based**, User must input min support value to get Hash Based Simulation, Data will selection accord with process or iteration in Hash Based Algorithm.
- **Bantuan**, User can know more about Program and FP-Growth Algorithm and Hash Based Algorithm and the ways of working.

4.1.2 Class Diagram GUI

Class Diagram shows classes from application in a diagram. In Class Diagram we can see the method (+) and widget (-) as used in classes.



Picture 4.2 Class Diagram GUI

Information :

- Simulator, This class is first class or home class from this application. From here user can access to other class where in this class contains buttons to access other class.
- Input Page, function of this class is to input data, where in this class contains EditText to input data and button to save data in SQLite.
- View Page, function of View Page is to show data in TableLayout. Into the bargain in this class contains

button to delete data in TableLayout, and link TextView to link with Input Page. In this class contains two method first to show data and second to action buttons, such as delete data, link to Input Page, and back to Simulator class.

- Hash Page, this class constitute class show to selection data with Hash Based Algorithm. In this class contains 9 method to completing Hash Based Algorithm Process.
- Growth Page, show class to selection data with FP-Growth Algorithm. This class only show process until first FP-Tree Simulation. And the next step there in Growth Two Page class.
- Growth Two Page, complete step FP-Growth Algorithm from Growth Page class. In this class will contain continue FP-Tree Simulation where function of this FP-Tree is to selection data or itemset. After finish this class will show the results.
- Bantuan, this class only contains text consist description program and ways of working from FP-Growth Algorithm and Hash Based Algorithm.

4.2 Design and Feature

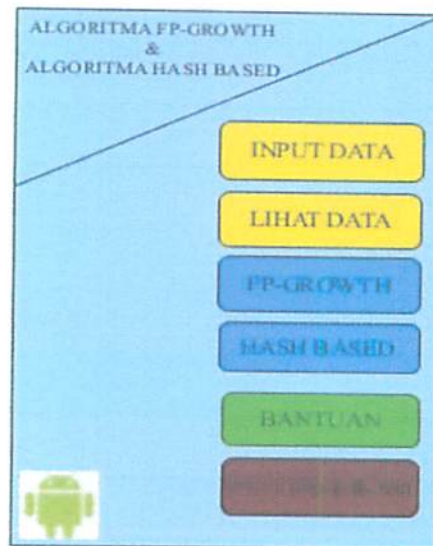
4.2.1 Feature

- Simulasi
 - + Button to entire other class
 - + Button to exit program
- Input Page
 - + Button to back menu (Simulasi class)
 - + Input data transaction and item
 - + link to View Page

- **View Page**
 - + delete all data
 - + link to Input Page
 - + show all data
 - + Button to back menu (Simulasi class)
- **Growth Page**
 - + Button to back menu (Simulasi class)
 - + Input min support
 - + show item and FP-Growth process
- **Growth Two Page**
 - + Button to back menu (Simulasi class)
 - + show FP-Growth process and result
- **Hash Page**
 - + Button to back menu (Simulasi class)
 - + Input min support
 - + Show item, Hash Based process, and Hash Based result
- **Bantuan**
 - + Button to back menu (Simulasi class)
 - + Show the description of Program specially FP-Growth and Hash Based Algorithm

4.2.2 Design

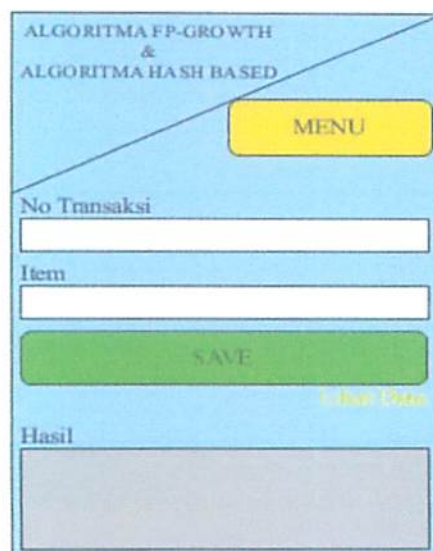
- **Simulator Class Design**
Design from Simulator class where in this design contains 5 buttons to access other class and 1 button to exit from application.



Picture 4.3 Simulator Design

- Input Page Design

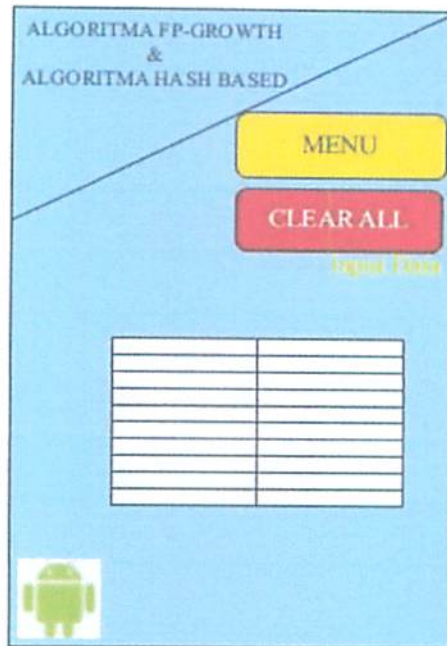
Design to input data contain two EditText to input data, and space to view the result. And contains link TextView to make user easier in show all data in View Page.



Picture 4.4 Input Page Design

- View Page Design

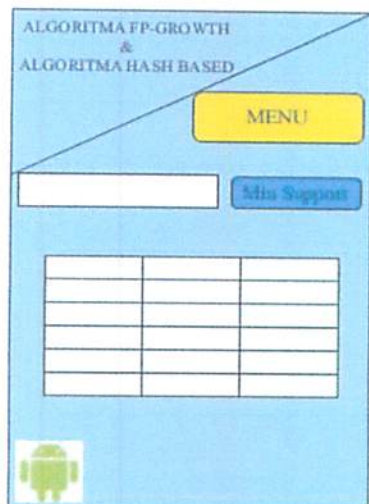
This design show the View Page plan that the function is show all data (Transaksi and Item), button clear all to delete data and Link Input Data to make user easier to move the Input Page.



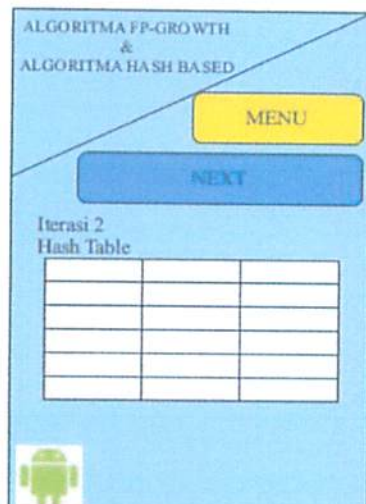
Picture 4.5 View Page Design

- Growth Page and Hash Page Design

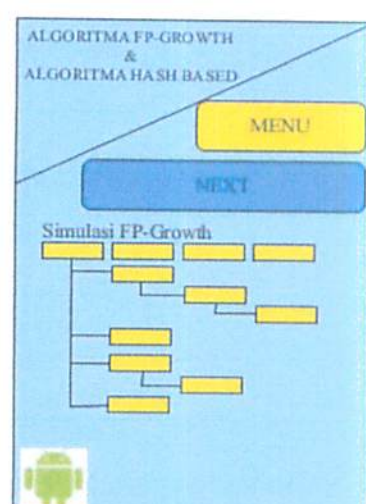
Pictures below is one of Growth Page and Hash Page Design, where picture 4.6 is first screen of Growth Page and Hash Page. Picture 4.8 is one of Growth Page display where show FP-Tree Simulation. And picture 4.7 is one of Hash Page display where show Hash Table.



Picture 4.6



Picture 4.7



Picture 4.8